

REMARKS

Claims 4-7 have been rejected by the Examiner under 35 USC 112/35 USC 101. In response thereto, the Applicants have cancelled claims 4-7 rendering this rejection moot.

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Claims 1-3 have been rejected by the Examiner under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Specifically, the Examiner states that it is unclear what the Applicant intends as the particle size distribution as well as what is meant by the terms “energetic balance” and what is intended by the limitation “the atoms and/or ions located in the surface of the nano particles are saturated in terms of valence in dependence on the concentration of the nano particles in the dispersion medium using a surface modifier”.

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In response thereto, the Applicants have amended claim 1.

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Specifically, the surface modifier and its function have been clarified base upon a corresponding part of the description in paragraph 1 on page 4 of the original specification. Accordingly, no new matter has been added.

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The term “energetic balance” has been deleted from the claims.

The present invention is based on a discovery that suspensions are only suitable for the production of products-like ceramic filtration membranes with well-defined, nano scale for-sizes if they show a specific particle distribution.

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In such a suspension

- only nanoparticles having a particle size in the range between 1 nm to 100 nm should be present and at the same time

- the nanoparticles should have a certain, well defined particle size distribution.

In claim 1 the Applicants have utilized the terminology “wherein particle size variation decreases from 50 %, related to nanoparticles of 1 nm, to 10 % for nanoparticles of 100 nm”. Unfortunately, it seems that the expression “particle size variation” is not the correct translation of the corresponding original german term “Teilchengrößen-Streubreite” and the term “particle size variation” itself has no defined meaning.

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Literally translated the term “Streubreite” means “scatter band”, the term “Teilchengröße” means “particle size”. According to the applicant the term “Teilchengrößen-Streubreite” should be understood as “the scatter band which covers the sizes of the nanoparticles in the dispersion”, thus a range between 1 nm and 100 nm.

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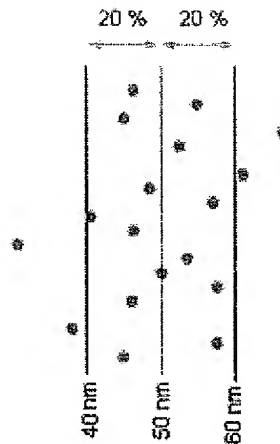
According to claim 1 “at least 90 % of the nanoparticles have a coinciding particle size”. Of course the 90 % do not have exactly the same size, e.g. 50 nm. Particles in a colloidal system do always show a Gaussian distribution which means their sizes scatter around a mean. That means the “coinciding particle size” has to be understood as a range which covers the sizes of at least 90 % of the nanoparticles in the dispersion. This range corresponds to the “scatter band” above.

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Claim 1 further specifies the “broadness” of the range which covers the sizes of the at least 90 % of the nanoparticles. In detail claim 1 specifies that “the particle size variation decreases from 50 %, related to nanoparticles of 1 nm, to 10 % for nanoparticles of 100 nm”. According to this the range has a certain broadness - depending on the particle size. The larger the particle sizes the tighter the range (at least with respect to %-values), this is one of the main aspects of the invention.

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In order to illustrate the above a simple schematic figure is as follows:



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Here the sizes of the particles scatter around 50 nm as a mean, however, more than 90 % are within an area between 40 nm to 60 nm (corresponding to a “particle size variation of 20 %”).

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The Applicants submit that this explanation overcomes the Examiner’s rejection.

The Examiner has rejected the claims 1-3 under 35 USC 102(b) as being anticipated by or in the alternative under 35 USC 103(a) as obvious over Burgard, et al. denoted as Burgard, et al. (II)), and Burgard, et al. (I).

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Claims 1-3 have been rejected under 35 USC 102(b) as being anticipated by or in the alternative under 35 USC 103(a) as being obvious over Nonninger, et al. and further anticipated by the alternative under 35 USC 103(a) over Bayer AG.

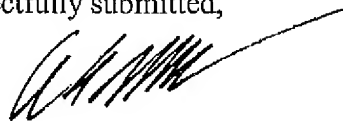
In response to all of these rejections, the Applicants submit that none of these documents cited by the Examiner deal with specific particle distributions. In fact, the Examiner acknowledges this point.

5 The claim "colloidal suspension" is not only a product which differs from the known products impurity, it is also characterized by the particle sized distribution as hereinabove explained. As noted in earlier references, as acknowledge by the Examiner, with specific particle distributions.

10 Accordingly, cited references taken individually or in combination, do not provide a prima facie case of anticipation/obviousness under 35 USC 102(b) or 35 USC 103(a).

In view of the arguments description hereinabove set forth and amendment to the claims, it is submitted that each of the claims now in the application define patentable subject
15 matter not anticipated by the art of record and not obvious to one skilled in this field who is aware of the references of record. Reconsideration and allowance are respectfully requested.

Respectfully submitted,



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